REMARKS

Claims 1-5, 12, 13 and 24 are pending and remain rejected under 35 U.S.C. § 112, first and second paragraphs. In addition, claims 1-5, 13 and 24 are newly rejected under 35 U.S.C. § 102(b).

By amendment herein, withdrawn claims 6-11 have been canceled, without prejudice or disclaimer. Claim 1 has been amended to make explicit the nature of the gene delivery vehicle (*see, e.g.,* pages 20-25 of the specification). Claims 5, 12 and 13 have been amended to remove Markush group language and new claims 26-30 have been added. Entry of the foregoing amendments and consideration of the pending claims 1-5, 12, 13, 24 and 25-30 in view of the following remarks is respectfully requested.

Drawings

Applicants note with appreciation that the drawings submitted on July 8, 2003 have been accepted.

35 U.S.C. § 112, First Paragraph

Claims 1-5, 12-13, and 24 remain rejected under 35 U.S.C. § 112, first paragraph as allegedly containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. In support of the rejection, the Examiner again asserts that the specification does not provide uses for the claimed methods other than for treating or preventing intracellular infection. (Office Action, page 3). Furthermore, it is again asserted that because the claims embrace gene therapy, they are necessarily unpredictable. (Office Action, pages 3-4).

Applicants traverse the rejection and address the Examiner's points in turn.

For the reasons of record and those reiterated herein, Applicants first note that there is no requirement that uses "other than treatment or prevention" be delineated. Nonetheless, as encouraged by the Examiner, Applicants again point out that it was well known at the time of filing that eliciting an immune response in a subject could be useful, even if the response was not completely therapeutic or prophylactic. Indeed, there are a vast number of claims in issued U.S. Patents directed to methods of generating an immune response *per se*. Because eliciting an immune response is, in and of itself, useful, Applicants again submit, for the reasons of record and those reiterated herein, that the specification as filed fully enables the pending claims throughout their scope. *See, e.g.,* Examples 14 and 15 (and corresponding Figures 15-17) establishing that the claimed methods generate humoral and cellular immune responses in subjects.

Even assuming, for the sake of argument only, that the specification needed to enable therapeutic and preventative uses, the evidence of record does in fact establish that the claimed methods provide a therapeutic or prophylactic benefit. In this regard, the specification clearly sets forth how the claimed methods "provide an effective means of inducing potent class I-restricted protective and therapeutic CTL responses, as well as humoral responses." (page 8, lines 35-37). The fact that the claimed methods treat intraceullar infections is also disclosed repeatedly throughout the specification as filed. (*See, e.g.,* original claims and Summary on pages 3-4). Accordingly, Applicants submit that they have in fact provided ample evidence that the specification satisfies the enablement requirement with respect to methods of generating an immune response in a subject, including methods of generating therapeutic and/or protective immune responses.

Furthermore, although not required, the art as a whole also supports the specification's disclosure that the claimed methods do in fact result in prophylactic and/or therapeutic immune responses. For instance, Barnett et al. (1998) *Aids Res. Hum. Retro.* 14(suppl. 3):S299-S309 (Ref. AC-2 in IDS considered on May 4, 2003) show that mice immunized with plasmid DNA encoding HIV Env antigens and subsequently immunized with recombinant proteins from HIV develop neutralizing antibodies. (Ref. AC-2, page S302). Similarly, Barnett also shows that chimpanzees were protected against HIV-challenge after administration of an adenovirus HIV vector and subsequent administration of recombinant HIV proteins. (Ref. AC-2, page S303). These results are corroborated by Barnett et al. (1997) *Vaccine* 15:869-873 (Ref. AC-1 on IDS considered August 10, 2001) and Fuller et al. (1997) *Vaccine* 15:924-925 (Ref. AN-1 of IDS considered on August 10, 2001). Simply put, the methods set forth in the specification (namely, administering a gene delivery vehicle carrying an antigen from an intracellular pathogen followed by protein administration of an antigen from that pathogen) clearly can result in neutralizing antibody (protective) responses in warm blooded animals. Given the evidence of record, Applicants submit that the claims are enabled throughout their scope.

With regard to the Examiner's allegation that methods encompassing gene therapy are invariably "unpredictable," Applicants again note that the Office is not applying the proper standard of enablement by asserting that gene therapy is always unpredictable and, accordingly, the claims as pending can never be enabled. The test of enablement is not what is predictable, but what the specification teaches the skilled practitioner in regard to the claimed subject matter. Not every species encompassed by the claims, even in an unpredictable area like the chemical sciences, needs to be disclosed. *In re Angstadt,* 537 F.2d 498, 504, 190 USPQ 214, 219, CCPA 1976. The notion that one of ordinary skill in the art must have reasonable assurance of obtaining positive results on every occasion has been emphatically rejected. *Angstadt* at 219. So long as it is clear that some species render the claims operative, the inclusion of possible

inoperative species does not invalidate the claim under paragraph 1 of 35 U.S.C. §112. (*In re Cook*, 439 F.2d 730, 735, 169 USPQ 298, CCPA 1971; *Horton v. Stevens*, 7 USPQ2d 1245, 1247, Fed. Cir. 1988).

In the pending case, Applicants have established that the specification teaches how to generate an immune response as claimed and, in addition, that these responses can be therapeutic and/or prophylactic. Thus, they are fully enabled by the specification despite their classification as "gene therapy" claims. In addition to the working examples and clear teachings of the specification, confirming evidence has also been made of record, including post-filing date references demonstrating that the claimed methods generate protective or therapeutic responses. Thus, Applicants submit that a *prima facie* case of non-enablement has not been (and indeed cannot be) established. Whenever the PTO makes such a rejection for failure to teach and/or use the invention, the PTO must explain its reasons for the rejection and support the rejection with (i) acceptable evidence, or (ii) reasoning which contradicts the applicant's claim: the reasoning must be supported by current literature as a whole and the PTO must prove the disclosure requires undue experimentation. *In re Marzocchi*, 439 F.2d 220, 223-24, 169 USPQ 367, 369-70 (CCPA 1971). The Examiner has still not provided support for this rejection.

In sum, for the reasons of record and reiterated herein, the claims as presently presented are of reasonable scope and are fully enabled by the specification as filed. Accordingly, withdrawal of this rejection is respectfully requested.

35 U.S.C. § 112, Second Paragraph

Claims 5 and 12 stand rejected under 35 U.S.C. § 112, second paragraph as allegedly indefinite. In particular, it was alleged that these claims recite broad ranges together with narrow ranges that fall within the broad range. (Office Action, page 5).

The foregoing amendments to claims 1, 5 and 12 obviate these rejections by removing the objectionable Markush group language. Accordingly, withdrawal of this rejection is requested.

35 U.S.C. § 102(b)

Claims 1-5, 13 and 24 stand rejected as allegedly anticipated by Hu et al.

Claim 1 has been amended above to make explicit that the gene delivery vehicle is a retroviral vector, alphavirus vector, parvovirus vector, plasmid vector, or eukaryotic layered vector initiation system vector. Since Hu is limited entirely to vaccinia virus vector, this reference does not teach or suggest all of the claimed elements. Accordingly, Hu does not anticipate the claimed methods and Applicant respectfully submit that this rejection should be withdrawn.

CONCLUSION

In view of the foregoing amendments and remarks, Applicants submit that the claims are now in condition for allowance and request early notification to that effect.

Please direct all further communications regarding this application to:

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Respectfully submitted,

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